

REMARKS

Status of the Claims

Prior to the amendments set forth herein, Claims 1-24 were pending. Claims 1-4, 7, 8, 11, 14, 17, 23, and 24 stand rejected, and Claims 5, 6, 9, 10, 12, 13, 15, 16, and 18-22 are withdrawn from consideration. Claims 1-4, 7, 8, 11, 14, 17, and 23 have been amended as set forth above.

Claim 25-29, which depend from Claims 1 or 24 are new. Support of the subject matter of Claims 25-28 is found in original Claim 1, which recites a Markush group of nucleotide sequences, their complements, or fragments thereof, related to SEQ ID NOS: 2 and 3. Claims 25 and 27 recite SEQ ID NO: 3, Claims 26 and 28 recite SEQ ID NO 2, and Claim 29 recites SEQ ID NOS: 2 and 3. Support for Claim 29 may be found in the application on page 3, lines 21 to 24.

Restriction/Election of Species

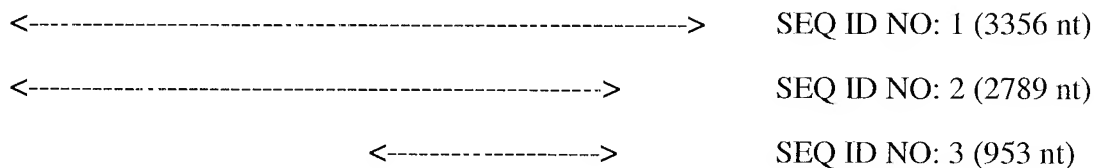
The Examiner acknowledged the receipt of the Applicants' restriction election, filed April 23, 2007, electing Group I (Claims 1-4, 7-8, 11, 14, 17, and 23). The Applicants acknowledge the withdrawal of claims in Group II and Group III (Claims 5, 6, 9-10, 12, 13, 15-16, and 18-22). SEQ ID NO: 3 of Group I was elected as a species with traverse, based on remarks noting that SEQ ID NO: 3 overlaps considerably with SEQ ID NO: 2. The Examiner found these remarks unpersuasive and deemed the election of species proper and final.

The Applicants respectfully submit that the election of species is improper, and again request reconsideration of this decision for the following reasons. The current "Guidelines for Examination of Patent Applications Containing Nucleotide Sequences" dated 22 February 2007 state that the USPTO will only examine one nucleotide sequence in a patent application, *unless*

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the applicant can demonstrate that multiple claimed sequences share a technical feature which makes a contribution over the prior art.

SEQ ID NO: 1, which corresponds to a genomic clone of perennial ryegrass (*Lolium perenne* L.) is 3356 nucleotides in length. SEQ ID NO: 2, which is 2789 nucleotides in length, corresponds to positions 1 to 2789 of the 3356 nucleotides in SEQ ID NO: 1. SEQ ID NO: 3, which is 952 nucleotides in length, defines the sequence of a PCR product containing a promoter region isolated from these nucleotides. SEQ ID NO: 3 corresponds to positions 1837-2789 of SEQ ID NO: 2. A schematic diagram is shown below:



The Examiner stated that SEQ ID NO: 3 is deemed free of the prior art in light of the failure of the prior art to teach or reasonably suggest SEQ ID NO: 3. The closest sequence identified in the prior art was an entry in a nucleotide database attributed to Olek et al., which was only 6.8% identical to SEQ ID NO: 3. If SEQ ID NO: 3 is free of the prior art, then SEQ ID NO: 2 should also be free of the prior art. Both sequences, therefore, share a technical feature which makes a contribution over the prior art. It is respectfully submitted that it is improper to require that claims directed to recited SEQ ID NO: 2 and SEQ ID NO: 3 be separated as distinct inventions warranting separate consideration or prosecution, given their high degree of similarity (one being wholly contained within the other).

In view of these remarks, the Applicants request reconsideration of the election of species requirement relating to the Group I set of claims. The amended claims have retained references to both SEQ ID NOS: 2 and 3. If the previous decision concerning the finality of the election of

species is reaffirmed, and it is necessary to elect one species, the Applicants reaffirm the prior election of SEQ ID NO: 3.

Specification

The Examiner has requested that Applicants update the status of parent priority applications in the first line of the specification; however, there are no parent U.S. priority applications, and no update is required.

The abstract of the disclosure was objected to because it was not provided on a separate page. A new copy of the abstract as a separate page is transmitted herewith.

Informal Objections

Claims 1-5, 11, 14, 17, and 23-24 were objected to for minor informalities.

Claims 1, 5, and 24 were objected to because they recite nonelected sequences.

As noted above, Claim 5 was withdrawn from consideration, and the objection to this claim is moot. Claims 1 and 24 recite both SEQ ID NO: 2 and SEQ ID NO: 3. To facilitate prosecution, new dependent Claims 25-29 have been added, as noted above, which recite SEQ ID NOS: 3, 2, 3, 2, and both 2 and 3, respectively. The Applicants' remarks concerning the proper/improper restriction of species for claims reciting both SEQ ID NOS 2 and 3 are noted above.

Claim 17 was objected to being an incomplete method claim that fails to achieve its stated objective. Claim 17 was amended to recite two steps, the first step related to introducing into a plant cells a nucleic acid, a vector, or a chimeric gene, and a second step related to "directing pollen-specific expression of an operably-linked second nucleic acid molecule". Support for this amendment may be found on page 11, lines 7 to 22 of the application, as filed.

Claims 1-4 and were objected to for lacking a proper antecedent basis for the phrase "nucleotide sequence." These claims have been amended as requested by the Examiner, replacing the word "A" or "an" preceding the phrase with the word "The" as appropriate.

Claims 7, 11, 14, 17, and 23 were objected to for lacking a proper antecedent basis for the phrase "nucleic acid molecule". These claims have been amended as requested by the Examiner, replacing the word "A" or "an" preceding the phrase with the word "The" as appropriate.

Rejections under 35 U.S.C. § 112, First Paragraph - Written Description

Claims 1-4, 7-8, 11, 14, 17, and 23 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner asserted that these claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art to use the invention that the inventors, at the time the application was filed, had possession of the claimed invention.

The Examiner asserted that the claims are drawn to SEQ ID NO: 3, vectors, and chimeric genes, and methods of using these genetic elements to transform and produce low allergy plants. The Examiner further asserted that pollen specific-expression of GUS using the promoter within SEQ ID NO: 3 in transgenic tobacco plants was adequately described, but not for wild-type or modified *Lol* promoters and heterologous genes linked to such promoters. The Examiner concluded that since other nucleic acids were not described that would hybridize to or are a modification of the 952 bp *Lol* p 2 promoter, an insufficient number of species were described that would warrant a claim to a genus of species as currently claimed.

To facilitate prosecution, Claim 1 has been amended, limiting its scope to the nucleotide sequence set forth in SEQ ID NO: 2 or 3; complements of SEQ ID NO: 2 or 3 having a size of at least 100 nucleotides; and fragments or variants of SEQ ID NO: 2 or 3 having a size of at least 100 nucleotides and having at least 95% identity to the part of SEQ ID NO: 2 or 3 upon which

the fragment or variant is based. It is submitted that the application provides an adequate written description of the claimed fragments and variants, which are described on page 3, line 18, to page 4, line 19; and on page 6, lines 12-23.

Rejections under 35 U.S.C. § 112, First Paragraph - Enablement

Claims 1-4, 7-8, 11, 14, 17, and 23 stand rejected under 35 U.S.C. § 112, first paragraph, as not enabling a person skilled in the art to make and use the invention commensurate with the scope of the claims. The Examiner asserted that the specification does not reasonably provide enablement for sequences which would hybridize to SEQ ID NO: 3, a complement, a fragment or variant, a portion, a sequence 95% identical to SEQ ID NO: 3, or a nucleic acid having at least 100 nucleotides of SEQ ID NO: 3, any of which are capable of modifying pollen-specific expression in plants.

As noted above, Claim 1 was amended to remove language relating to nucleic acid hybridization, and to more clearly specify nucleic acid molecules comprising (a) SEQ ID NOS: 2 or 3, (b) sequences at least 100 nucleotides long which are their complements, and (c) sequences at least 100 nucleotides long which are fragments or variants of (a) or (b) that are at least 95% identical to SEQ ID NOS: 2 or 3, respectively, wherein a molecule comprising (a), (b), or (c) is capable of modifying pollen-specific expression. As noted above, the Applicants submit that the application provides an adequate written description of the claimed fragments and variants, which are described on page 3, line 18, to page 4, line 19; and on page 6, lines 12-23, which would enable one skilled in the art to make and use the claimed invention.

Rejections under 35 U.S.C. § 102 - Anticipation

Claims 1-4, 7-8, 11, 14, 17, and 23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Singh et al. (US 6,180,368). The Examiner asserted that Singh et al. discloses an isolated nucleic acid that encodes ryegrass pollen allergens *Lol pIa* and *pIb*. He expressed the

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view that the current claims share one base with SEQ ID NOS: 1, 3, and 5 of Singh et al., for a percent identity of 100%. The search report in Appendix A of the Office Action notes 173,0690,072 hits using the parameters selected by the Examiner.

The Applicants respectfully disagree with the Examiner's interpretation of Claim 1 as encompassing fragments as small as a single nucleotide base pair and his assertion that a single base pair anticipates the claimed invention. Claim 1 also provides a limitation that the various nucleotide sequences are part of a nucleic acid molecule that must be capable of modifying pollen-specific expression. Support for this limitation is provided on page 3, lines 18-20; and on page 4, lines 9-14 of the application.

To facilitate prosecution, Claim 1 was amended to make it clear that the nucleotide sequences which are complements, fragments, or variants, are at least 100 nucleotides in length. "Variant" is defined on page 3, lines 18-29 of the application, to include naturally occurring allelic variants and non-naturally occurring variants, that include additions, deletions, substitutions, and derivatizations, as long as the alterations do not result in the loss of the functional activity of the variant.

In view of the amendments and remarks noted above, it is submitted that Singh et al. does not disclose or suggest sequences closely related to SEQ ID NOS: 2 or 3 for use in pollen specific expression that fall within the scope of the amended claims, and Applicants request that the rejection of these claims under 35 U.S.C. § 102(b) be reconsidered and withdrawn.

Rejections under 35 U.S.C. § 112, Second Paragraph - Clarity

Claim 1 was rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to distinctly claim the subject matter that the Applicants regard as the invention. The Examiner asserted that the recitation of "moderately stringent" or "high stringency" hybridization

conditions are inadequately defined. The Examiner also objected to the word "portion" in group (d) of Claim 1.

In view of the amendments to Claim 1 described in detail above, this rejection is believed to be moot.

CONCLUSIONS

In view of the foregoing amendments and comments, it is believed that Claims 1-4, 7, 8, 11, 14, 17, and 23-29 are in condition for allowance. Entry of the foregoing amendments and favorable action are requested. Please contact the Applicants' representative at the number set forth below to discuss any issues that will facilitate the prosecution of this application.

Respectfully submitted,

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